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LAWN PENNYWORT: A NEW WEED

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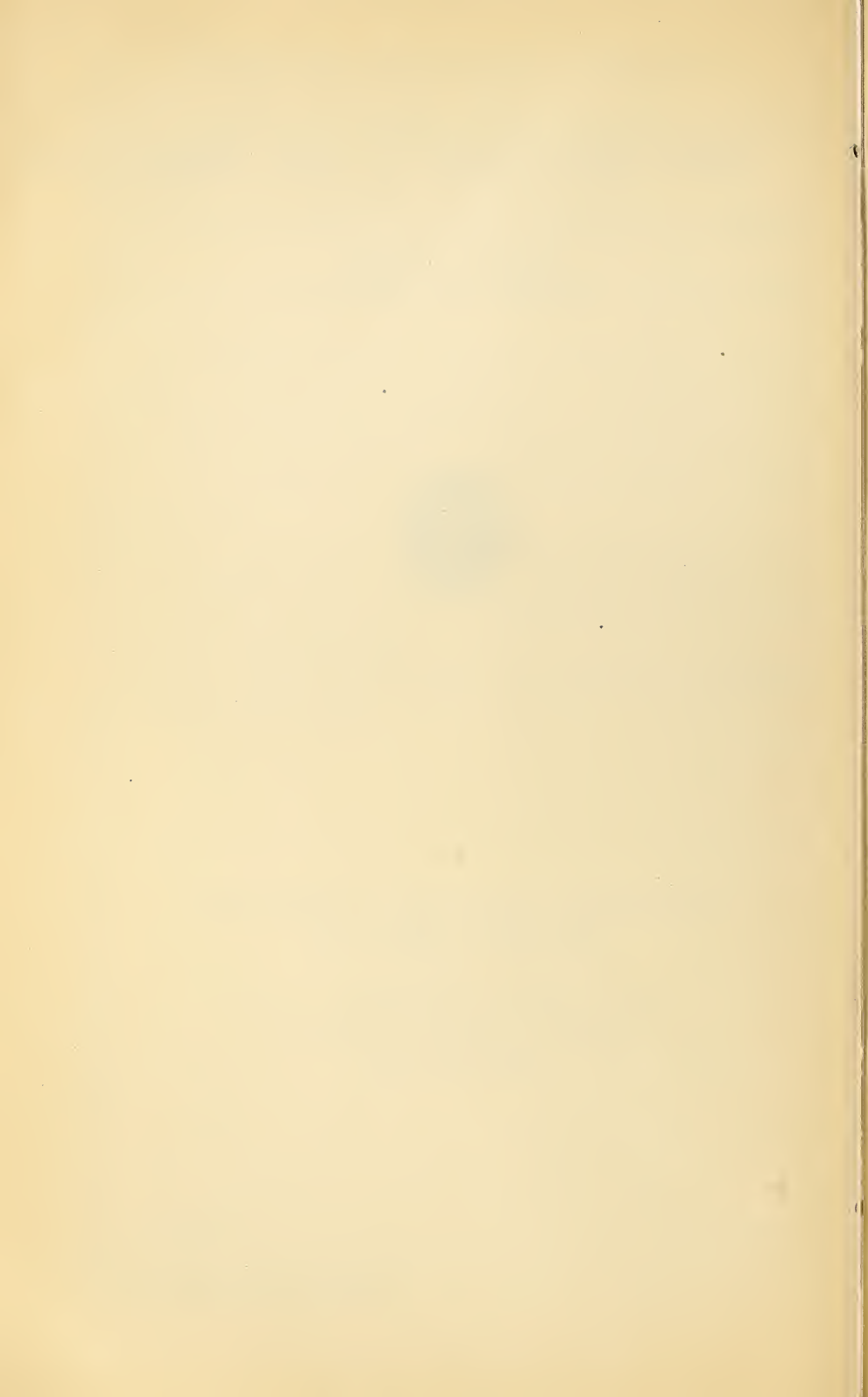


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INTRODUCTION INTO THE UNITED STATES.

A number of years ago a plant¹ from southern Asia grew in greenhouses in the United States. During the period from 1890 to 1895 it found some use as a border plant and for flat bedding pur-

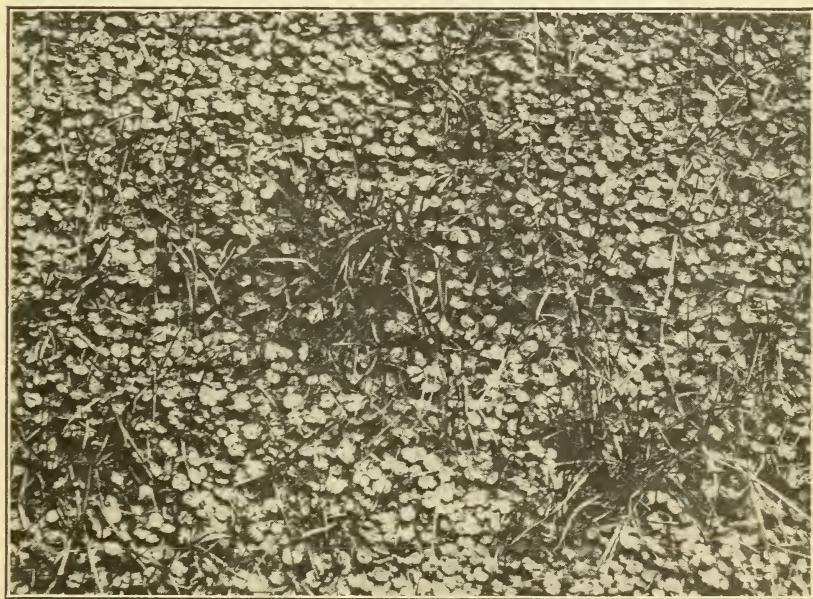


FIG. 1.—Lawn grass being crowded out by lawn pennywort, Washington, D. C.

poses. On account of its outdoor use the plant spread and infested near-by lawns, in which the species became very aggressive and abundant (fig. 1).

¹ Known scientifically as *Hydrocotyle rotundifolia*. The species was first mentioned by William Roxburgh in *Hortus Bengalensis*, p. 21, 1814, and later described by him in *Flora Indica*, vol. 2, p. 88, with the notation that the species grew wild in the Botanic Gardens at Calcutta, India, being especially abundant during the rainy season. Among gardeners in this country it was erroneously called *Sibthorpia europæa*.

It is particularly undesirable on golf greens, where it is readily disseminated by the seeds adhering to the shoes of players, especially following rains, when the ground is muddy. Large patches of the plant which recently appeared on the golf greens of the Washington Country Club, near Washington, D. C., not only damaged the turf but were also obnoxious because the weed became infested with a fungus that caused the diseased areas to become slimy and disagreeable. The fungus did not eradicate the weed.

On account of its comparatively recent introduction into the United States and because the plant has become abundant only during the past few years, it does not as yet possess a generally accepted common name. Several closely related species are known as water pennyworts. On account of its habit of growing on lawns, the name lawn pennywort seems appropriate, and is therefore suggested as the common name.



FIG. 2.—Lawn pennywort (*Hydrocotyle rotundifolia*). 1. The creeping stem, showing the leaves and seed heads. Note the tufts of fibrous roots originating at the nodes. (Natural size.) 2. A single seed head, showing the compact mass of fruits at the end of the seed stalk, characteristic of the species. Closely related species either have fruits possessing individual stalks or else the clusters are scattered along the entire seed stalk.

DESCRIPTION.

Lawn pennywort is a creeping perennial (fig. 2), growing typically in dense patches (fig. 3). The slender stems not only creep along the surface of the soil, but they also grow a short distance below the soil surface. The mass of closely interwoven stems enables the plant to live over winter. Small tufts of slender, fibrous roots occur at the nodes (fig. 2), which are distributed at intervals on the creeping stem. The leaves and flowering stalks also grow from the nodes.

A tiny cluster of white flowers terminates each flowering stalk. The flowers appear during early summer and are soon replaced by the disk-shaped seeds, which somewhat resemble the seeds of wild parsley, although considerably smaller.

The leaves are shield shaped, shiny, and smooth, each possessing a slender stalk arising directly from the creeping stem. The leaves vary from one-fourth to three-fourths of an inch in diameter.

There are seven species of pennyworts occurring in the United States. The lawn pennywort can be distinguished from all the others by the fact that the flowers and seeds occur in compact clusters, one cluster at the terminus of each flowering stalk. In the other species, each flower either possesses its own separate stalk or else the clusters occur at intervals along the flowering stalks.

In the open, lawn pennywort grows abundantly in sunny situations. In greenhouses it thrives in the shade of the benches. On



FIG. 3.—A compact mass of lawn pennywort, showing the character of the foliage and the small fruiting heads. The lawn grass apparently has all been crowded out by the vigorous growth of the weed. (Natural size.)

account of its ability to grow in the shade, experiments were made to determine whether the plant could be used in shady situations, such as under large trees and in the shade of buildings where lawn grasses refuse to grow. Both transplanting the sod of lawn pennywort and the sowing of seeds in the spring failed to produce a stand of the plant in densely shaded places out of doors.

DISTRIBUTION.

Lawn pennywort is widely distributed in the District of Columbia, where it infests lawns, golf courses, and greenhouse beds. The plant is also prevalent in the vicinity of Philadelphia and Pocono Lake, Pa., and is a pest in Cave Hill Cemetery, Louisville, Ky., where it is said to have been introduced by florists.

Although its present distribution is somewhat limited, lawn pennywort seems to be increasing its range rapidly. Unless the plant is eradicated on its first appearance in new localities it bids fair to become one of the worst lawn weeds in the eastern United States.

ERADICATION.

Lawn pennywort occurs on lawns in compact patches. When the weed first appears, the patches should be dug out with a spade and all the plants either burned or otherwise destroyed. It should be remembered that if the removed plants are simply cast aside they are likely to mature seeds in a short time, and these seeds may cause a new infestation of the weed. The bare spots in the lawn should be either resodded or else fertilized and seeded to good lawn grasses.

Experiments to eradicate lawn pennywort by spraying with solutions of common salt, arsenic, and iron sulphate and with gasoline have proved unsuccessful. All the sprays mentioned killed the leaves, but the creeping stems were only slightly harmed and soon sent up a new crop of leaves.

The leaves grow so close to the surface of the soil as to escape the lawn mower. If it is desired to eradicate the plant by means of cultivation, a cultivator of the revolving, scraper type is very efficient. With large areas of infestation it is sometimes more practicable to spade up the lawn and reseed it. Before reseeding, however, the lawn should be allowed to remain fallow for at least two weeks, during which time the land should be stirred with a rake occasionally in order to induce the germination of any pennywort seeds that may be in the soil, and the resulting seedlings should be destroyed with a hoe. Unless this is done, the weed is likely to start growth ahead of the grass and crowd it out. Encouraging the lawn grasses by fertilization and occasional reseeding will aid in keeping the weed in check, but will not eradicate the pest, on account of the pennywort's virile growth.

It is of primary importance to eradicate lawn pennywort when it first appears on the premises. Owners of lawns, particularly in the regions in which the weed is known to occur, should be on the lookout for the plant and should not allow it to obtain a foothold. Preventive measures are far more effective than control methods.

If the lawn is heavily infested it may be desirable to allow the lawn pennywort to grow, since it is a rather handsome plant. It has the disadvantage of dying down in winter, thus leaving bare spots in the lawn. This disadvantage may possibly be overcome by sowing a quick-growing grass in the early fall, using one that will remain green over winter. For this purpose, redtop may be used in the Northern States and Italian rye-grass in the Southern States.

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